

IN THE CLAIMS

1. (Currently Amended) Method to create a topology map indicating the quality of connectivity of each network device of a wireless network with all other network devices in said wireless network, characterized by the following steps:

- performing a measurement phase in which a calibration signal is successively broadcasted by each network device and in which all respective other network devices receiving said calibration signal measure the received signal quality;

C1 - performing a reporting phase in which the measurement results are wirelessly transmitted from each network device to the network device creating said topology map; and

- performing a creating phase in which said topology map of the network is created within the network device creating said topology map on basis of all received measurement results.

2. (Original) Method according to claim 1, characterized in that said calibration signal is transmitted in a dedicated control channel.

3. (Previously Presented) Method according to claim 1, characterized in that said measurement results are reported in a respective dedicated control channel.

4. (Previously Presented) Method according to claim 1, characterized in that said calibration signal is transmitted with the maximum allowed transmit power level.

5. (Previously Presented) Method according to claim 1, characterized in that said topology map is updated when a new network device joins the network.
6. (Previously Presented) Method according to claim 1, characterized in that said topology map is updated after a predetermined amount of time.
7. (Currently Amended) Method according to claim 1, characterized in that said topology map is stored in ~~the~~ a central controller of said wireless network.
8. (Previously Presented) Method according to claim 1, characterized in that said topology map is broadcasted in the whole network.
9. (Previously Presented) Method according to claim 1, characterized in that only the parts of the topology map related to a specific network device are transmitted to said specific network device.
10. (Previously Presented) Method according to claim 1, characterized in that said calibration signal is transmitted using an omni-directional antenna.
11. (Previously Presented) Method according to claim 1, characterized in that the contents of the topology map are codes that are mapped to receive power values.

12. (Previously Presented) Method according to claim 1, characterized in that said measurement phase and/or reporting phase is initiated by the network device creating said topology map.

13. (Currently Amended) Network device for a wireless network, characterized by means to broadcast a calibration signal, to measure a power level of a received calibration signal, to internally store results of said measurement and to wirelessly transmit its said measurement results to another network device ~~or to store it internally~~.

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14. (Original) Network device according to claim 13, characterized in that said functions are performed on demand of another network device or on an internal demand.

15. (Currently Amended) Network device according to claim 13, characterized by a calibration decoder (9) that initiates the broadcast of a calibration signal and the measurement of the reception quality of one or more incoming calibration signals upon reception of a measurement control signal.

16. (Currently Amended) Network device according to claim 15, characterized in that said calibration decoder (9) initiates the transmission of one or more measurement results upon reception of a reporting control signal.

17. (Currently Amended) Network device according to claim 13, characterized by a report encoder (10) that receives one or more signal quality indication signals and

encodes therefrom a signal quality control signal to be transmitted to said other network device.

18. (Currently Amended) Network device configured and adapted for wireless communication in a wireless network, characterized by

C / means configured and adapted for generating and wirelessly communicating respective control signals for initiating a measurement phase and initiating a reporting phase; and

means configured and adapted for performing a creation of a topology map indicative of the quality of wireless connectivity of each network device of said wireless network with all other network devices in said wireless network on the basis of measurement results received during the reporting phase for a wireless network,
~~characterized by means to initiate a measurement phase, to initiate a reporting phase and to perform a creation of a topology map on basis of measurement results received during the reporting phase.~~

19. (Canceled)

20. (New) Method to create a topology map of a wireless network comprising a plurality of network devices, wherein at least one of said network devices lacks a wired network connection to any other of said network devices, said topology map indicating the quality of connectivity of each of said plurality of network devices with all other network devices of said plurality of network devices, characterized by the following steps:

performing a measurement phase in which a calibration signal is successively broadcasted by each network device and in which all respective other network devices receiving said calibration signal measure the received signal quality;

performing a reporting phase in which the measurement results are transmitted from each network device to the network device creating said topology map; and

performing a creating phase in which said topology map of the network is created within the network device creating said topology map on the basis of all received measurement results.

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21. (New) Method according to claim 20, characterized in that said calibration signal is transmitted in a dedicated control channel.

22. (New) Method according to claim 20, characterized in that said measurement results are reported in a respective dedicated control channel.

23. (New) Method according to claim 20, characterized in that said calibration signal is transmitted with the maximum allowed transmit power level.

24. (New) Method according to claim 20, characterized in that said topology map is updated when a new network device joins the network.

25. (New) Method according to claim 20, characterized in that said topology map is updated after a predetermined amount of time.

26. (New) Method according to claim 20, characterized in that said topology map is stored in a central controller of said wireless network.

27. (New) Method according to claim 20, characterized in that said topology map is broadcasted in the whole network.

CJ 28. (New) Method according to claim 20, characterized in that only the parts of the topology map related to a specific network device are transmitted to said specific network device.

29. (New) Method according to claim 20, characterized in that said calibration signal is transmitted using an omni-directional antenna.

30. (New) Method according to claim 20, characterized in that said measurement phase and/or reporting phase is initiated by the network device creating said topology map.

31. (New) Method to create a topology map of a wireless network comprising a plurality of network devices, wherein network communication between said plurality of network devices is effected solely as wireless communication, said topology map indicating the quality of connectivity of each of said plurality of network devices with all other network devices of said plurality of network devices, characterized by the following steps:

performing a measurement phase in which a calibration signal is successively

broadcasted by each network device and in which all respective other network devices receiving said calibration signal measure the received signal quality;

21 performing a reporting phase in which the measurement results are transmitted from each network device to the network device creating said topology map; and

performing a creating phase in which said topology map of the network is created within the network device creating said topology map on the basis of all received measurement results.
